Current Water Conditions in Massachusetts July 9, 2015

- June precipitation was above normal
- June streamflows were normal
- June groundwater levels were normal
- June reservoir levels were generally normal





Precipitation Conditions

Estimated June state-wide average precipitation was 6.11 inches, which is 158 percent of the long-term average (3.86 inches) for the month. Precipitation in the regions of Massachusetts ranged from 94 percent (Cape Cod and Islands) to 209 percent (Connecticut River region) of the long term average. A table of June 2015 estimated precipitation statistics, based on preliminary precipitation data from the Department of Conservation and Recreation and National Weather Service monitoring networks, is attached. A map at the back of this report shows the areal distribution of June rainfall. Significant rain events occurred on June 1, June 21 (tropical storm Bill), and June 27 to 28. Precipitation deficits have generally diminished across the state except for the Southeast region and Cape Cod and Islands, where 3-month deficits of four to six inches are estimated for the months of April, May and June.

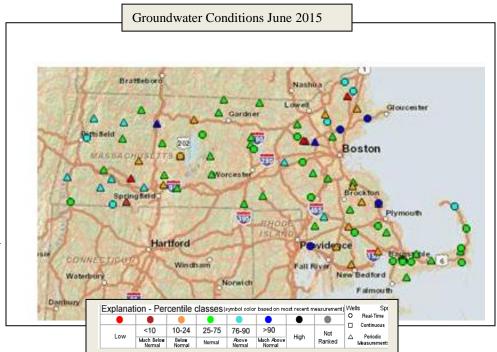
Precipitation values for April, May, and June for some regions are within Massachusetts Drought Management Plan thresholds. The 3-month values reflecting April, May, and June for all regions except for Cape Cod and the Islands have returned to normal, but Cape Cod/Islands has now reached in the Watch level. Other factors in state drought determination have not reached their thresholds, however.

Groundwater Levels

Groundwater levels reported by the U.S. Geological Survey at the end of June or beginning of July were generally in the normal range. An assessment of groundwater conditions in the Massachusetts drought regions at the end of this report lists normal monthly ground water conditions in all regions. The USGS Groundwater Conditions for the end of June 2015 can be viewed at the web site:

http://ma.water.usgs.gov/water statement/2015_06/index.html

Ground water conditions remain in the normal level for the Massachusetts Drought Management Plan.



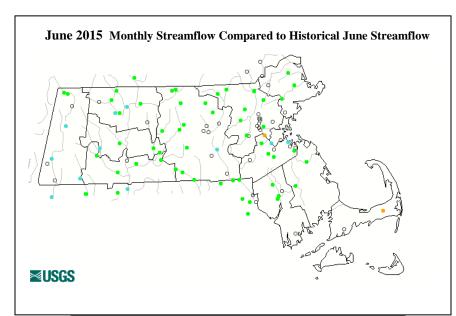
Streamflow

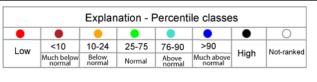
Average June 2015 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were in the normal range in all areas of the state. See map at right found at: http://waterwatch.usgs.gov/new/index.php?m=mv01d&r=ma&w=map

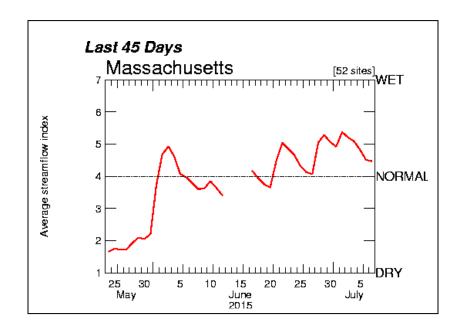
Streamflow has returned to the normal level for this indicator in the Massachusetts Drought Management Plan.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the 45-day period of May 23 to July 7, 2015. Stream flows were in the normal range for most of June. The graph is a composite of 52 real-time gages across the state with a long period of record. An updated streamflow plot can be found at:

http://waterwatch.usgs.gov/index.php?map_type1=pa07d&map_type2=&map_type3=&map_t ype4=&web_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map_type=real&group_idx=1&sel_nm=map_type1&sel_va=real







KEY: 1 = New record low for day $2 = < 10^{\text{th}} \text{ percentile}$ $3 = 10^{\text{th}} - 24^{\text{th}} \text{ percentile}$ $4 = 25^{\text{th}} - 74^{\text{th}} \text{ percentile}$ $5 = 75^{\text{th}} - 89^{\text{th}} \text{ percentile}$ $6 = \ge 90^{\text{th}} \text{ percentile}$ 7 = New record high for day

Water Supply Reservoir Levels

Selected surface water reservoir percent-full values for water supply sources provided by water suppliers are listed below. The reservoir percent-full values listed are for the end of June or the beginning of July 2015. Although most of the reservoir levels are in the normal range, the Lynn reservoir system is below normal for the second month in a row (in accordance with state Drought Management Plan criteria), although the Lynn Water & Sewer Commission considers the reservoir capacity normal.

June/July 2015 Massachusetts Reservoir Status

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	95.5	Beverly/Salem	92.7
Worcester	92.1	Lynn	75.1
Cobble Mt./ Springfield	N.A.	Taunton/New Bedford/Assawompsett	94

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) July 7, 2015 Drought Monitor Map shown at right indicates areas of Abnormally Dry conditions in southwest Massachusetts, and the coastal regions.

The June 18, 2015 NOAA Seasonal Drought Outlook indicates drought conditions will likely be removed through the September 30, 2015 period.

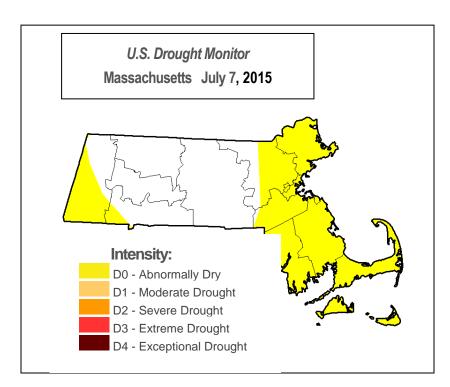
Standardized Precipitation Index (SPI)

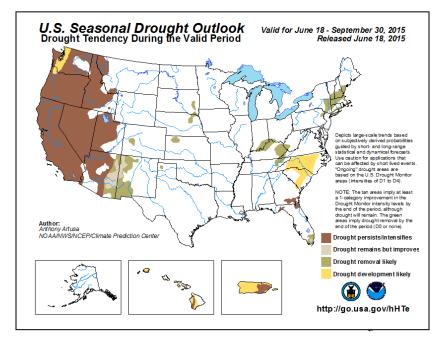
Standardized Precipitation Index values for the West, Connecticut River, and Central regions at the end of June had returned to Massachusetts Drought Management Plan normal range. The 3-month SPI for Cape Cod/Islands region has reached Drought Plan Advisory range.

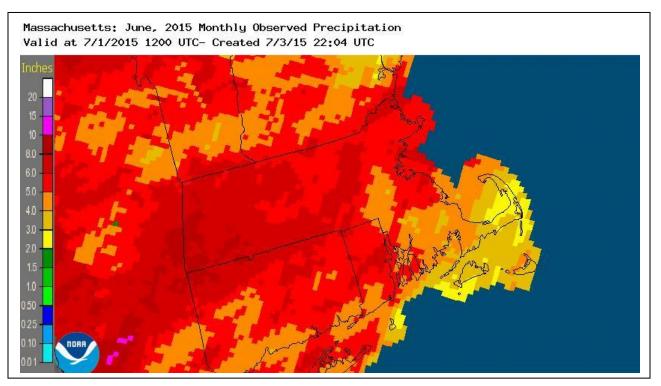
NWS/NOAA's Climate Prediction Center

The Climate Prediction Center forecasts below normal temperatures and above- normal precipitation for the northeast US for July 13 to 21, 2015. The three month outlook for June, July, and August 2015 indicates a shift to above normal temperatures, and does not indicate unusual precipitation conditions.

National Weather Service Climate Prediction Center Information can be found at: http://www.cpc.noaa.gov/index.php







http://water.weather.gov/precip/

TOTAL ESTIMATED RAINFALL JUNE 2015



GENERAL WATER CONDITIONS IN MASSACHUSETTS - JUNE 2015EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

Massachusetts Regions	Surface-Water Conditions	Groundwater Conditions
Cape and Islands	ND	
Southeast	Normal	Normal
Northeast	Normal	Normal
Central	Normal	Normal
Connecticut River	Normal	Normal
Western	Normal	Normal

Note: Surface- and groundwater conditions for individual streamflow-gaging stations and wells may differ from general conditions. ND, no data

This report was prepared by the Massachusetts Department of Conservation and Recreation. Data were obtained from the sources described in the report and may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site:

 $\underline{http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html}\\$